

Application No. 10/769,692
Response to OA of 02/23/2006

Remarks

In the present response, claims 1-27 are presented for examination.

I. Examiner's Amendment

Applicants acknowledge the Examiner's amendments to claims 19 and 22. The designation of these claims is "previously presented" to recognize these amendments.

II. Claim Rejections: 35 USC § 112, First Paragraph

Claims 7 and 27 are rejected under 35 USC § 112, first paragraph, as failing to comply with the enablement requirement. Claims 7 and 27 are amended, and Applicants respectfully argue that these rejections are moot.

III. Claim Rejections: 35 USC § 112, Second Paragraph

Claims 1, 8, and 24 are rejected under 35 USC § 112, first paragraph, as being indefinite. Claims 1, 8, and 24 are amended, and Applicants respectfully argue that these rejections are moot.

IV. Claims Rejection: 35 USC § 103(a)

Claims 1-4, 8-9, 11-12, 22-24, and 27 are rejected under 35 USC § 103(a) as being unpatentable over USPN 6,317,371 (Katayama) in view of USPN 6,961,807 (Hauck). Applicant respectfully traverses.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143. Applicants assert that the rejection does not satisfy these criteria. Without conceding whether the first and second criteria have been met, Applicants discuss the third criterion to demonstrate that a *prima facie* case of obviousness does not exist.

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The independent claims recite numerous recitations that are not taught or suggested in Katayama in view of Hauck. By way of example, the independent claims recite a microprocessor, a non-volatile imperfect semiconductor memory device, and a memory controller that are located on the system-on-a-chip. The Office Action admits that Katayama does not teach a chip with these three elements:

Katayama further teaches that the Memory Controller and the non-volatile imperfect semiconductor memory device are in a system-on-a-chip to reduce the scale of the circuitry (Col. 20, Lines 55-63), but does not specifically disclose that the microprocessor is also in the system-on-a-chip. (Emphasis added, see OA at pages 6-7).

Applicants agree with this admission. The Office Action, however, attempts to cure this deficiency with Hauck. Applicants respectfully disagree.

As shown in FIG. 1, Hauck teaches an integrated circuit die 20 that has a memory 22, a microprocessor 24, and a cache controller 26 (see Hauck at 3: 48-50). This memory 22, however, is neither non-volatile nor imperfect.

First, Hauck expressly teaches two different embodiments or modes for using the integrated circuit die. In each of these modes, the memory is volatile. With regard to the first mode, Hauck explains: "Generally, in a first mode, the integrated circuit die 20 may be utilized with an external non-volatile memory 40 ... wherein the multi-purpose memory 22 acts as a cache memory" (see 3: 62-66). With regard to the second mode, Hauck explains: "In a second mode, the integrated circuit die 20 may be used with an external memory 50 (FIG. 4A-4B), such as a serial EEPROM, coupled with the second memory port 30 wherein the program instructions, and/or other persistent information stored on the external memory 50 are loaded into the multi-purpose memory 22 ..." (see 4: 3-9).

Second, as noted, the independent claims recite that the memory is "imperfect." As defined in Applicants' specification: "An imperfect memory device is herein defined as a high-density semiconductor-based memory device that, in addition to having

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permanent errors, will periodically have a error correction and/or memory mapping in order to provide reliable data storage." The memory 22 expressly taught in Hauck is not "imperfect" as that term is defined in Applicants' specification.

For at least these reasons, the independent claims and their dependent claims are allowable over Katayama in view of Hauck.

V. Claims Rejection: 35 USC § 103(a)

Claims 5 and 25 are rejected under 35 USC § 103(a) as being unpatentable over Katayama and Hauck in view of USPN 5,557,596 (Gibson). Gibson fails to cure the deficiencies of Katayama and Hauck noted in section IV. For at least these reasons, claims 5 and 25 are allowable.

VI. Claims Rejection: 35 USC § 103(a)

Claims 6 and 26 are rejected under 35 USC § 103(a) as being unpatentable over Katayama and Hauck in view of USPN 6,466,471 (Bhattacharyya). Bhattacharyya fails to cure the deficiencies of Katayama and Hauck noted in section IV. For at least these reasons, claims 6 and 26 are allowable.

VII. Claims Rejection: 35 USC § 103(a)

Claim 7 is rejected under 35 USC § 103(a) as being unpatentable over Katayama and Hauck in view of USPN 5,410,707 (Bell). Bell fails to cure the deficiencies of Katayama and Hauck noted in section IV. For at least these reasons, claim 7 is allowable.

VIII. Claims Rejection: 35 USC § 103(a)

Claim 10 is rejected under 35 USC § 103(a) as being unpatentable over Katayama and Hauck in view of USPN 5,884,067 (Storm). Storm fails to cure the deficiencies of Katayama and Hauck noted in section IV. For at least these reasons, claim 10 is allowable.

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IX. Claims Rejection: 35 USC § 103(a)

Claim 19 is rejected under 35 USC § 103(a) as being unpatentable over Katayama and Hauck in view of USPN 6,917,967 (Wu). Wu fails to cure the deficiencies of Katayama and Hauck noted in section IV. For at least these reasons, claim 19 is allowable.

X. Allowable Subject Matter

Applicants sincerely thank the Examiner for indicating allowance of claims 13-18, 20, and 21. Applicants have made a sincere effort to put this case in condition for allowance.

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CONCLUSION

In view of the above, Applicants believe that all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. (832) 236-5529. In addition, all correspondence should continue to be directed to the following address:

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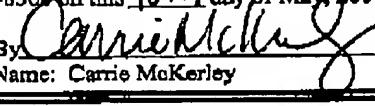
Respectfully submitted,



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CERTIFICATE UNDER 37 C.F.R. 1.8

The undersigned hereby certifies that this paper or papers, as described herein, is being transmitted to the United States Patent and Trademark Office facsimile number 571-273-8309 on this 18th day of May, 2006.

By 
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